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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,803	03/19/2001	Mike Warner	TESSERA 3.0-255	9626

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EXAMINER	
TOLEDO, FERNANDO L	
ART UNIT	PAPER NUMBER
2823	

DATE MAILED: 07/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/811,803	WARNER ET AL.	
	Examiner	Art Unit	
	Fernando Toledo	2823	

-- Th MAILING DATE of this communication appears on th cov r sh t with th correspond nce addr ss --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 March 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 17-38* is/are rejected.

7)☒ Claim(s) *11-16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rej ctions - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 18 and 19 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 18 discloses providing leads having a first end permanently attached to the second side assembly and a second end releasably attached to the second side assembly. It is not clear what Applicant meant by this limitation. Why are both sides of the lead attached to the same assembly structure? How can the second end be detached without detaching the first end? If both ends are attached to the same assembly structure how can the first assembly structure be attached to the leads? How come there is a releasable end of the leads?

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 10, 17, 20 – 34 and 36 – 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Kovac et al. (U. S. patent 5,695,952).

In re claim 1, Kovac in the U. S. patent 5,695,952; figures 1 – 8, and related text, discloses providing a first side assembly having a top surface and an oppositely facing bottom surface (225, 215), and a second side assembly 200 having a first surface so that the bottom surface of the first side assembly is juxtaposed with the first surface of the second side assembly; providing leads (225 and 150) extending between the first side assembly and the second side assembly (figures 1 and 5A) and a first resilient element (110 and 220) disposed between the fist side assembly and the second side assembly; applying a compressive force to the juxtaposed assemblies so as to compress the first resilient element (figure 2); and at least partially releasing the compressive force so as to allow the first resilient element to expand, thereby moving one or both of the first side assembly and the second side assembly to deform the leads (columns 4 and 5).

In re claim 2, Kovac discloses wherein the step of providing a first side assembly includes providing a microelectronic element 350 (figure 7).

In re claim 3, Kovac teaches wherein the step of providing a first resilient element includes attaching the first resilient element to the first side assembly (figures 4A – 4C and 5A).

In re claim 4, Kovac shows wherein the step of providing leads includes providing leads extending between the microelectronic element and the second side assembly (figure 1).

In re claim 5, Kovac further discloses wherein the leads have a first end and a second end and the microelectronic element includes contact, and the method further

includes bonding the first end of the leads to each of the contacts, wherein the second ends of each of the leads is attached to the second side assembly (figure 8).

In re claim 6, Kovac further teaches wherein the step of providing a first side assembly includes providing a frame having an aperture for receiving a microelectronic element (figure 5A) and the step of providing a first side assembly includes inserting the microelectronic element into the aperture (column 7).

In re claim 7, Kovac further shows wherein the at least one resilient element includes a material having a low compression set (column 4).

In re claim 8, Kovac additionally discloses wherein the low compression set material has an initial height before the step of applying a compressive force and a final height after the step of at least partially releasing the compressive force, the final height being between 80% to 100% of the initial height (columns 4 and 5).

In re claim 9, Kovac additionally teaches wherein the low compression set material includes a silicone elastomer of a flexibilized epoxy (columns 4 and 5).

In re claim 10, Kovac additionally shows wherein the at least one resilient element is porous (columns 4 and 5).

In re claim 17, Kovac also discloses wherein the first side assembly includes a flexible dielectric layer (column 10).

In re claim 20, Kovac also teaches wherein the step of providing leads includes providing leads on microelectronic elements and bonding the leads to the second side assembly (figure 1).

In re claim 21, Kovac also shows wherein the step of providing a first resilient element includes stencil printing a composition onto at least one of the first side assembly and the second side assembly (figures 3A and 3B).

In re claim 22, Kovac discloses as well wherein the step of providing at least one resilient element includes stencil printing a curable composition and curing the curable composition (figures 3A and 3B and column 5).

In re claim 23, Kovac teaches as well further including juxtaposing a structure over the microelectronic element (figures 5C and 8).

In re claim 24, Kovac shows as well wherein the structure is a heat spreader (column 10).

In re claim 25, Kovac in addition discloses further including providing a second resilient element on a surface of the structure facing the microelectronic element (figure 5C).

In re claim 26, Kovac in addition teaches further including providing adhesive on the structure n a surface of the structure, which faces the microelectronic element (figure 5C).

In re claim 27, Kovac in addition shows wherein the adhesive is a curable adhesive and further includes curing the adhesive during the step of applying compressive force (columns 7 and 8).

In re claim 28, Kovac moreover discloses further including juxtaposing a coverlay over the structure and attaching the coverlay to the first side assembly (columns 9 and 10).

In re claim 29, Kovac moreover teaches further includes encapsulating the deformed leads by disposing a curable composition around the leads and curing the curable composition (figure 2).

In re claim 30, Kovac moreover shows wherein the composition is compliant (column 6).

In re claim 31, Kovac illustrates wherein the first side assembly includes several microelectronic elements, the second side assembly includes a dielectric layer and the method further includes after the step of introducing an encapsulant cutting through the dielectric layer around the microelectronic elements (column 9).

In re claim 32, Kovac further illustrates wherein the first side assembly includes a wafer having a wafer having several of microelectronic elements (column 9).

In re claim 33, Kovac additionally illustrates wherein the step of applying a compressive force applying an elevated pressure to at least one surface of the first side assembly which faces away from the second side assembly (column 9).

In re claim 34, Kovac moreover illustrates wherein the step of applying a compressive force includes a vacuum to at least one surface of the first side assembly which faces toward the second side assembly (claim 4).

In re claim 36, Kovac illustrates as well further including the step of attaching solder balls to the second side assembly wherein each of the solder balls is electrically interconnected to one of the second ends of one of the leads (figures 1, 2, 6 and 8).

In re claim 37, Kovac in addition illustrates wherein the first side assembly further includes a conductive plane disposed on a bottom surface thereof (figure 8).

In re claim 38, Kovac divulges a microelectronic package made according to the method of claim 1 (figures 1 – 8).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kovac in view of Khandros et al. (U. S. patent 5,848,467).

Kovac does not teach wherein the leads include a metal selected from the group consisting of copper, gold, gold alloys and copper alloys.

However, Khandros in the U. S. patent 5,848,467; figures 1 – 33 and related text, discloses that the leads in order to be flexible and easily bendable have to be formed by copper (columns 11 and 12).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the leads of Kovac with a metal consisting of copper, gold, gold alloys and copper alloys, since as taught by Khandros, it will make leads to be flexible and easily bendable.

Claim Objections

4. Claims 11 – 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fernando Toledo whose telephone number is 703-305-0567. The examiner can normally be reached on Mon-Fri 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 703-308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7382 for regular communications and 703-308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Fernando Toledo
Examiner
Art Unit 2823

ft
July 8, 2002

SUPERVISORY PRIMARY EXAMINER
TECHNOLOGY CENTER 2800